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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,048	07/12/2001	William E. Daniel JR.	025057-57	8049
27863	7590	09/16/2005		
MCNAIR LAW FIRM, PA P.O. BOX 10827 GREENVILLE, SC 29603-0827			EXAMINER PROCTOR, JASON SCOTT	
			ART UNIT 2123	PAPER NUMBER

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/904,048	Applicant(s) DANIEL ET AL.	
	Examiner Jason Proctor	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-68 and 74-142 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63-68 and 74-142 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/18/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 63-68 and 74-142 are pending in this application as per preliminary amendment dated 12 July 2001. Claims 63-68 and 74-142 have been rejected.

Specification

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Information Disclosure Statement

2. The information disclosure statement filed 18 September 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The reference "Graphic Interfaces for Simulation", Hollan et al., has not been found in the file.

Claims

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The claims presented are generally repetitive and extremely lengthy. The Examiner has put significant effort into citing the relevant portions of the prior art references in the rejections under 35 U.S.C. §§ 102 and 103 below, however certain claims may have been inadvertently rejected under § 103. For example, where a claim presents a verbose rephrasing of a limitation that should have been rejected under § 102, that claim may be inadvertently rejected under § 103. The Examiner respectfully requests Applicants' assistance in identifying similar or nearly identical claims in order to expedite prosecution.

It has also come to the Examiner's attention that the claims, as presented, are not necessarily the most concise definition of the invention. Certain claims are unnecessarily repetitive and could be significantly simplified by modifying the dependencies.

However, Applicants are free to define the invention according to the claims how they see fit. The preceding discussion of the claims is intended solely as suggestions that may expedite examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 82, 95, 96, 103, and 140-142 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 82, 95, 96, 103, 140, and 141 recite the phrase "x-ray vision", in quotation marks, within the body of the claim. The Examiner interprets this limitation according to the popular

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definition of the phrase, however requests that the quotation marks be removed from the claim. Reciting the phrase in quotation marks confuses the clear meaning of the claim by appearing to invoke a special definition.

Claims rejected but not specifically mentioned stand rejected by virtue of their dependence.

4. Claims 65-68 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are multiple dependent from cancelled claims and will not be further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 63-64, 74-82, 89, 95-103, 110, 115, and 139-142 are rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent No. 6,282,455 to Engdahl.

Regarding claims 74 and 97, Engdahl discloses a system and method of computer generation of an interactive virtual reality world [*"intuitive multi-viewed representation"* (column 2, lines 9-16); Figs. 3-5; (column 3, lines 32-42)] for monitoring and controlling a process [*"a control system"* in a *"factory floor"* (column 2, lines 9-16); *"for use with an industrial control system including at least one electronic computer controlling the operation of an industrial process through the use of a stored program"* (column 2, lines 22-26)] comprising:

Constructing a first group of one or more related screen displays associated with the operation of said process which are alphanumeric equivalents of output from variables in said process [*"The computer executes an interface program to provide a three-dimensional representation of a virtual factory with [...] images of portions of the control program associated with the control of the given machine"* (column 2, lines 33-44); *"The images displayed may include an image of the data"* (column 2, lines 50-58)];

Constructing a second group of one or more related screen displays associated with the operation of said process, which screen displays include graphical representations of one or more units of processing equipment in said process, which are derived from outputs from signal output [*"the computer may further execute the interface program to animate the images [...] to depict operation of the industrial process"* (column 2, lines 50-58); *"The stored program receives data from the industrial process in the form of control inputs and provides data to the industrial process in the form of control outputs."* (column 2, lines 26-31)];

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Constructing one or more graphical representations of controllable elements in said process which include graphical representations of adjustable parameters associated with a signal interface of a unit of equipment,

interfacing input objects (graphical representations of controllable elements in said process) with the corresponding inputs of signal interfaces of equipment, and

controlling a unit of equipment through manipulation of control elements [*“Each remote unit 28 includes an I/O interface 30 having lines 32 exchange input and output signals with controlled equipment (not shown in FIG. 1)”* (column 4, lines 26-31); *“Other inputs from the user are used to manipulate the scene graph 56 in more fundamental ways including moving objects and changing their properties.”* (column 6, lines 46-53); *“node editor 78 which passes external data to the nodes which may respond, through their methods, to such data by animation or the like in coordination with input output data from the I/O image table 44 the latter which reflects the state of objects 64”* (column 7, lines 16-28)]; and

interfacing through the virtual worlds with a user [*“the present invention provides a human/machine interface”* (column 2, lines 22-44); *“The invention includes a visual display and a multi-dimensional input device (such as a mouse) communicating with a computer on the network.”* (column 2, lines 22-44)].

Regarding claim 75, Engdahl discloses enabling a user to select one or more virtual reality worlds to select a raw data view or a derived view (column 7, lines 3-15).

Regarding claims 76 and 99, Engdahl discloses that the virtual reality interface represents an industrial process or industrial control system [abstract; (column 9, lines 35-47)], thus a chronologically based sequence such as the sequence in which a workpiece is handled or a feedstream is processed.

Regarding claims 77, 78, and 139, Engdahl discloses that the input objects correspond to processing variables in the process [*“Each remote unit 28 includes an I/O interface 30 having lines 32 exchange input and output signals with controlled equipment (not shown in FIG. 1)”* (column 4, lines 26-31); *“Other inputs from the user are used to manipulate the scene graph 56 in more fundamental ways including moving objects and changing their properties.”* (column 6, lines 46-53); *“node editor 78 which passes external data to the nodes which may respond, through their methods, to such data by animation or the like in coordination with input output data from the I/O image table 44 the latter which reflects the state of objects 64”* (column 7, lines 16-28)].

Regarding claims 79-81 and 100-102, Engdahl discloses displaying the virtual reality world in two or three dimensions (column 3, line 63 – column 4, line 8).

Regarding claim 82 and 103, Engdahl discloses enabling the user to navigate a unit of equipment to display an “x-ray vision” view of the internal aspects of the unit of equipment [*“object may become invisible or transparent”* (column 6, lines 40-45; *“toggle the visibility property”* (column 7, lines 39-52); FIG. 4]

Regarding claims 89 and 110, Engdahl discloses that interconnections in a scene graph (column 5, lines 41-51) show relationships between the dependent and independent variables associated with the output and input objects [*“The interconnections of the scene graph also provide paths of data flow between methods of the nodes.”* (column 6, lines 1-9)].

Regarding claims 95 and 96, limitations in common with claims 74 and 97 have been rejected *supra*.

Additionally, Engdahl discloses providing means of navigating through the collection of virtual reality worlds by selecting an output object and following the output object's links to other worlds and enabling the user to drill through views of the virtual reality worlds [*“The stethoscope tool 72 operates in a similar manner but providing qualitative readings of I/O data such as may be deduced from one or more property types according to general rules.”* (column 8, lines 52-62); Also (column 7, lines 3-15) illustrate the various navigational tools and links between different virtual reality displays.]

Engdahl discloses enabling the user to navigate a unit of equipment to display an “x-ray vision” view of the internal aspects of the unit of equipment [*“object may become invisible or transparent”* (column 6, lines 40-45; *“toggle the visibility property”* (column 7, lines 39-52); FIG. 4]

Regarding claim 98, Engdahl discloses a means whereby a user can select what output or input objects to display in a view (column 6, lines 40-45).

Regarding claim 115, Engdahl implicitly discloses the recited units [FIGS. 1 and 7; (column 6, line 46 – column 7, line 39)]. The claim broadly recites generic structure for performing a method similar to that of claim 74. Engdahl discloses a system that anticipates claim 97 as well as performs the method of claim 74, thus Engdahl implicitly discloses the generic structure for performing that method as cited.

Regarding claims 140 and 141, limitations in common with claims 74 and 95-97 have been rejected *supra*.

Additionally, Engdahl discloses that the virtual reality interface represents an industrial process or industrial control system [abstract; (column 9, lines 35-47)], thus a chronologically based sequence such as the sequence in which a workpiece is handled or a feedstream is processed.

Regarding claim 142, Engdahl discloses displaying “floating palettes” that contain alphanumeric data associated with the user’s point of perspective [“*The images displayed may include an image of the data*” (column 2, lines 50-57); FIG. 4].

Claims 63 and 64 present combinations of limitations that Engdahl discloses, as has been cited *supra*. Engdahl discloses and therefore anticipates the combination of limitations presented in claims 63 and 64.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 83-88, 90-94, 104-109, 111-114, and 116-138 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Engdahl.

The limitations recited by these claims would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention in view of the teachings of Engdahl. These claims present numerous features primarily directed toward further limiting a human-computer interface such as that disclosed by Engdahl. Engdahl either discloses or renders obvious these limitations to one of ordinary skill in the art.

Conclusion

Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached at (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jason Proctor
Examiner
Art Unit 2123


Paul L. Rodriguez 7/13/05

Primary Examiner
Art Unit 2125